Two species of Macrocentrus Curtis unknown from Austria (Hymenoptera: Braconidae)

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ABSTRACT. — Two species of *Macrocentrus* are reported from Austria, viz., *M. bicoloripes* spec. nov. and *M. flavus* Snellen van Vollenhoven. *M. flavus* is redescribed, and a neotype is designated. The species is reported to be a solitary endoparasite of *Acrobasis* spec. (Pyralidae) from southern France. *M. bicoloripes* is most closely related to *M. hungaricus* Marshall, 1893, of which *M. tsunekii* Watanabe, 1940 and *M. mongolicus* Papp, 1967 are new synonyms.

INTRODUCTION

Among specimens collected in the Austrian part of the Neusiedler See area two remarkable species of *Macrocentrus* were discovered. One of the species proved to be new, the other the enigmatic *Macrocentrus flavus* Snellen van Vollenhoven, 1878. *Macrocentrus flavus* was described from Golgau (Poland), the type-series is lost, and the interpretation of the species was impossible without additional material. However, the Austrian specimen fits the description and the illustrations well and is here designated as neotype. Shortly after finishing the redescription of *M. flavus* I received specimens of this species reared as solitary parasite of *Acrobasis* spec. (Lepidoptera, Pyralidae) collected at the Mont Ventoux, South France, from *Quercus* spec.

Macrocentrus turanicus Telenga, 1950, described from Central Asia, may be a junior synonym of *M. flavus*; unfortunately the type of *M. turanicus* was not available for study. *M. turanicus* was reared from Pyralidae and Tortricidae. This paper is part of a revision of the Macrocentrinae, and a key to the Palaearctic spp. of the Macrocentrinae will be published in the near future. For the technical terms used, see Van Achterberg (1979: 242-249).

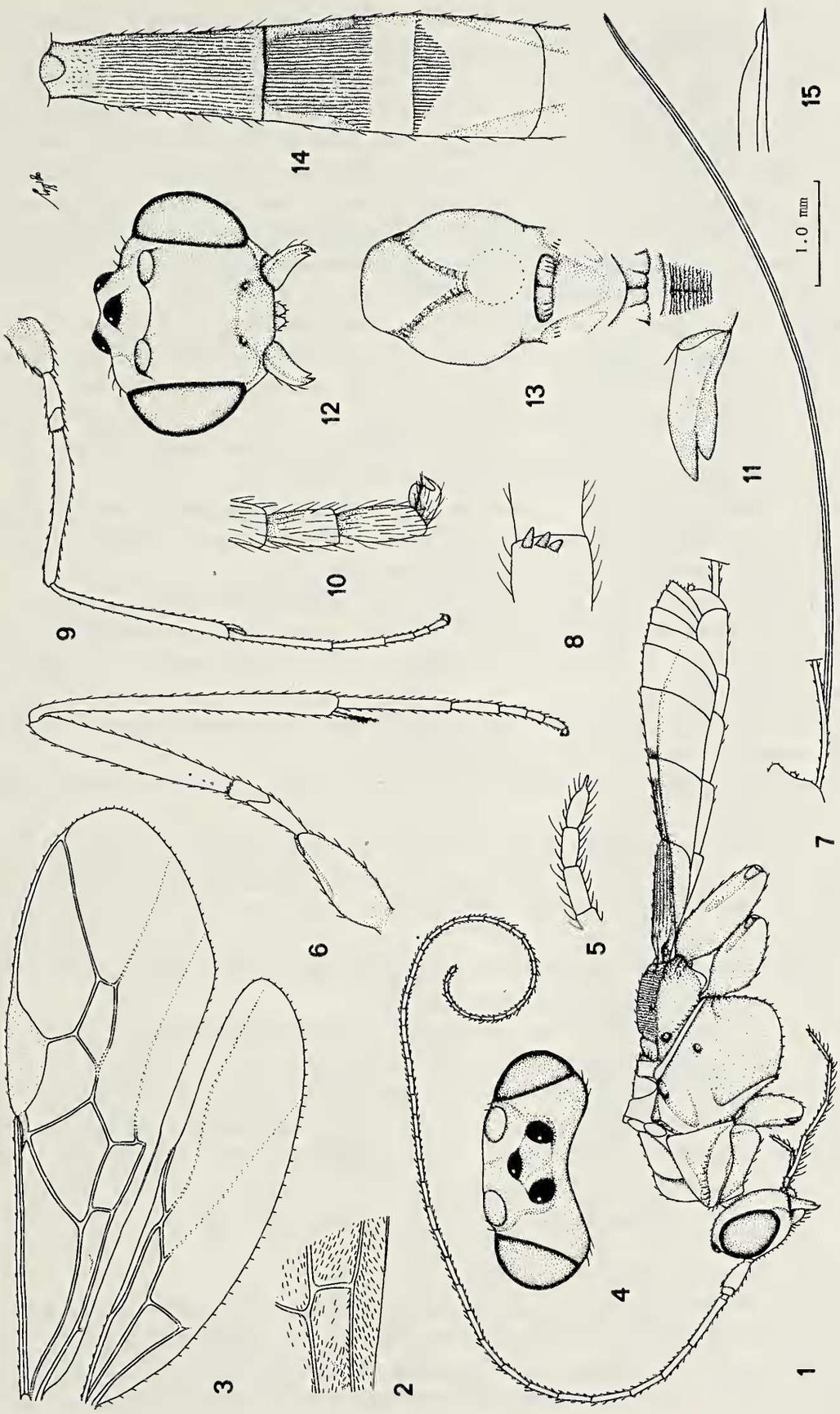
Macrocentrus flavus Snellen van Vollenhoven (figs. 1-15).

Snellen van Vollenhoven, 1878: 54, pl. 34, figs. 3, 3a-c.

Neotype, ♀, length of body 6.5 mm, of fore wing 5.7 mm.

Head. — Antennal segments 53, length of 3rd segment 1.4 times 4th segment, length of 3rd and 4th segments 6.4 and 4.6 times their width, respectively, the penultimate segment 2.2 times its width, apical segment with spine (fig. 5); length of maxillary palp 1.8 times height of head; length of eye in dorsal view 7.1 times temple; temple directly narrowed posteriorly (fig. 4); POL : Ø ocellus : OOL = 22 : 16 : 16; frons smooth, slightly depressed; vertex smooth, convex, depressed near stemmaticum; face rather flat, finely punctate; clypeus convex, punctulate, its apical margin straight (fig. 12); length of malar space 0.7 times basal width of mandible; mandible strongly twisted apically, 2nd tooth much shorter than 1st tooth (fig. 11), both teeth acute.

Mesosoma. — Length of mesosoma 1.5 times its height; pronope absent; side of pronotum finely crenulate medially, rest smooth (fig. 1); prepectal carina complete (but weak behind fore coxae); epicnemial area smooth; precoxal sulcus posteriorly only superficially impressed, finely punctate; rest of mesopleuron punctulate (fig. 1); pleural sulcus largely smooth; episternal scrobe deep; metapleural flange wide and truncate apically; metapleuron finely punctate, ventrally rugose; notauli distinct, anteriorly narrowly, and posteriorly wider crenulate (fig. 13); mesoscutal lobes smooth, largely glabrous, middle lobe truncate anteriorly and more convex than lateral lobes; scutellar sulcus with one medial and 6 lateral carinae; scutellum rather flat, smooth; side of scutellum smooth; metanotum with undivided medial carina in anterior half; surface of propodeum densely and finely transversely rugose (figs. 1, 13); medial carina of propodeum indistinct, and only present anteriorly.



Figs. 1-15. *Macrocentrus flavus* Snellen van Vollenhoven, neotype. 1, habitus, lateral aspect; 2, apex of subbasal cell of fore wing; 3, wings; 4, head, dorsal aspect; 5, apex of antenna; 6, hind leg; 7, ovipositor; 8, hind trochantellus; 9, fore leg; 10, inner hind claw; 11, mandible, latero-ventral aspect; 12, head, anterior aspect; 13, mesosoma, dorsal aspect; 14, 1st-3rd metasomal tergites, dorsal aspect; 15, apex of ovipositor. 1, 3, 6, 7, 9; scale-line (= 1 ×); 2, 4, 12-14: 2 ×; 5, 8, 10, 11, 15: 5 ×.

Wings. — Fore wing: 1st discal cell subsessile anteriorly (fig. 3); subbasal cell partly glabrous apically (fig. 2) and with an obsolete yellowish-brown patch; r: 3-SR : SR1 = 12 : 25 : 62; 1-SR+M straight; SR1 slightly sinuate; cu-a straight; 1-CU1 not distinctly widened (fig. 3); 1-CU1 : 2-CU1 = 3 : 14; 2-SR : 3-SR : r-m = 17 : 25 : 7; 2A basally sclerotized. Hind wing: SC+R1 slightly bent; SR weakly curved (fig. 3); marginal cell subparallel-sided apically.

Legs. — Hind coxa finely punctulate; tarsal claws with acute submedial lobe and apical tooth slender and curved (fig. 10), setose; length of femur, tibia, and basitarsus of hind leg 7.5, 12.6 and 7.8 times its width, respectively; length of hind tibial spurs 0.3 and 0.4 times hind basitarsus; fore femur curved, slender (fig. 9); fore tibial spur short, 0.2 times fore basitarsus; fore, middle and hind trochantellus with 4, 4, and 3 teeth, respectively (fig. 8).

Metasoma. — Length of 1st tergite 2.1 times its apical width, its surface finely longitudinally aciculate, medio-basally rather flat, rest convex, and dorsal carinae indistinctly developed in front of the spiracles; laterope very deep; 2nd tergite distinctly aciculate, but apical quarter smooth (fig. 14); 3rd tergite anteriorly finely aciculate, rest smooth; rest of metasoma smooth, and rather compressed; ovipositor somewhat upcurved, its apex rather slender, with obtuse notch (fig. 15); length of ovipositor sheath 1.40 times fore wing.

Colour. — Brownish-yellow; stemmaticum (but yellowish medio-posteriorly), and apices of 3rd and following antennal segments, dark brown, wing veins and ovipositor sheath brown; pterostigma and parastigma yellow; wing membrane subhyaline.

Neotype (here designated) in Rijksmuseum van Natuurlijke Historie, Leiden: "Austria, Burgenl., Weiden am See, 14.VIII.1979, Th. Peter". Additional specimens in the same institute: 1 ♀, 1 ♂, France, Mont Ventoux, Vaucluse, solitary endoparasite of *Acrobasis* spec. on *Quercus*, P. du Merle.

Variation. — Antennal segments 52-53, length of body 5.9-6.5 mm, of fore wing 5.0-5.7 mm, length of ovipositor sheath 1.40-1.61 times fore wing.

Note. — *Macrocentrus flavus* resembles *M. bicolor* Curtis, 1833 but can be separated from that species as follows:

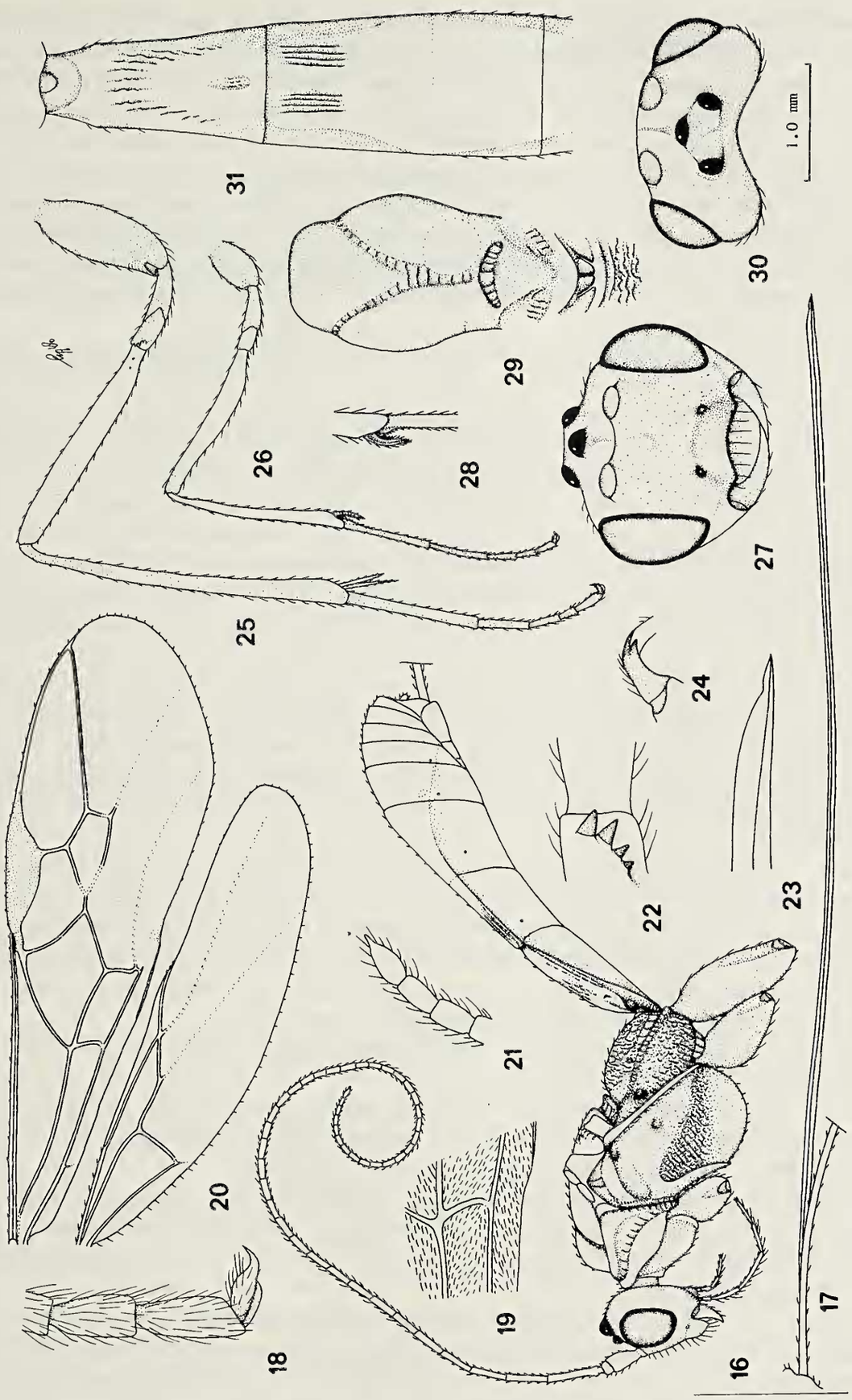
1. Head and metasoma largely black; hind tibia darkened apically; margins of pterostigma slightly infuscated; vein SR of hind wing virtually straight; propodeum irregularly and partly coarsely rugose; 2nd tergite aciculate apically; clypeus weakly concave ventrally; precoxal sulcus more or less impressed ..... *bicolor* Curtis, 1833
   Solitary parasite of Tortricidae and Oecophoridae. Syn.: *Rogas limbator* Ratzeburg, 1848; *Macrocentrus gracilipes* Telenga, 1935.
— Head, metasoma, hind tibia, and pterostigma completely yellowish; vein SR of hind wing rather curved (fig. 3); propodeum regularly and finely transversely rugose (figs. 1, 13); 2nd tergite smooth apically (fig. 14); clypeus straight ventrally (fig. 12); precoxal sulcus not impressed (except shortly posteriorly) ..... *flavus* Snellen van Vollenhoven, 1878
   Solitary parasite of Pyralidae. Syn.: ?*Macrocentrus turanicus* Telenga, 1950.

Macrocentrus bicoloripes spec. nov. (figs. 16-31)

Holotype, ♀, length of body 6.2 mm, of fore wing 5.5 mm.

Head. — Antennal segments 48, length of 3rd segment 1.4 times 4th segment, length of 3rd and 4th segment 6.0 and 4.4 times their width, respectively, penultimate segment 1.8 times its width, apical segment with spine (fig. 21); length of maxillary palp 1.5 times height of head; length of eye in dorsal view 1.6 times temple; temple punctulate and subparallel-sided behind eyes (fig. 30); POL : ∅ ocellus : OOL = 11 : 4 : 6; frons flat (except for a shallow medial groove and depressions behind antennal sockets), smooth; vertex punctulate, rather flat; face rather flat, finely punctate; clypeus convex, sparsely finely punctulate, its apical margin rather concave (fig. 27); length of malar space 0.8 times basal width of mandible; mandible strongly twisted apically, both teeth acute apically, 2nd tooth rather slender, much shorter than 1st tooth (fig. 24).

Mesosoma. — Length of mesosoma 1.5 times its height; pronope medium-sized; side of pro-



Figs. 16-31. *Macrocentrus bicoloripes* spec. nov., holotype. 16, habitus, lateral aspect; 17, ovipositor; 18, inner hind claw; 19, apex of subbasal cell of fore wing; 20, wings; 21, apex of antenna; 22, hind trochantellus; 23, apex of ovipositor; 24, mandible, latero-ventral aspect; 25, hind leg; 26, fore leg; 27, head, anterior aspect; 28, fore tibial spur; 29, mesosoma, dorsal aspect; 30, head, dorsal aspect; 31, 1st-3rd metasomal tergites, dorsal aspect. 16, 17, 20, 25, 26: scale-line (= 1 ×); 19, 24, 27-31: 2 ×; 18, 21-23: 5 ×.

notum medially and posteriorly rugose-crenulate (fig. 16), rest punctulate; prepectal carina complete, strong (also behind fore coxae); epicnemial area finely punctate dorsally, crenulate ventrally; precoxal sulcus coarsely punctate-rugose (fig. 16); rest of mesopleuron sparsely punctate; pleural sulcus crenulate; episternal scrobe rather shallow; metapleural flange large, rounded apically; metapleuron coarsely rugose, but dorsally punctate; notauli narrowly crenulate anteriorly, wider posteriorly (fig. 29); mesoscutal lobes largely setose (but middle of lateral lobes largely glabrous), punctulate, middle lobe truncate anteriorly and somewhat more convex than lateral lobes (fig. 16); scutellar sulcus deep, with 9 longitudinal carinae; scutellum rather flat and densely punctulate; side of scutellum rugose; metanotum with long, undivided, medial carina (fig. 29); surface of propodeum coarsely, irregularly rugose (figs. 16, 29); medial carina of propodeum absent.

Wings. — Fore wing: 1st discal cell shortly petiolate (fig. 20); subbasal cell completely setose and with no pigmented stripe (fig. 19); r : 3-SR : SR1 = 11 : 18 : 72; 1-SR+M distinctly curved; SR1 straight; cu-a inclivous (fig. 19); 1-CU1 slightly widened; 1-CU1 : 2-CU1 = 1 : 17; 2-SR : 3-SR : r-m = 11 : 9 : 5; 2A unsclerotized, as faint brownish stripe. Hind wing: SC+R1 gradually curved; SR slightly curved (fig. 20); marginal cell parallel-sided apically.

Legs. — Hind coxa punctulate, with some micro-striae apico-dorsally; tarsal claws slender, without lobe, setose (fig. 18); length of femur, tibia, and basitarsus of hind leg 8.1, 15.5 and 11.6 times their width, respectively; length of hind tibial spurs 0.40 and 0.45 times hind basitarsus; fore tibial spur 0.3 times fore basitarsus, specialized (fig. 28); fore, middle and hind trochantellus with 5, 4 and 4 teeth in a curved comb, respectively (fig. 22); fore femur curved (fig. 26).

Metasoma. — Length of 1st tergite 1.7 times its apical width, surface largely smooth, with some rugae submedially (fig. 31), deeply concave medio-basally, rest convex, dorsal carinae weakly developed in front of spiracles; laterope large and deep; 2nd tergite with some striae in anterior half, rest smooth (fig. 31); 3rd and following tergites smooth, somewhat compressed; ovipositor straight, with a shallow subapical notch (fig. 23); length of ovipositor sheath 1.64 times fore wing.

Colour. — Brownish-red; antenna, palpi, mandibles and their bases, stemmaticum, metapleuron, propodeum, mesosternum, mesopleuron (ventral half), apices of alle coxae, all trochanters and trochantelli (but apically reddish), apices of fore and middle femora, apical 0.4 of hind femur, hind tibia, middle tibia (except base), all tarsi, middle and hind spurs, metasoma, and ovipositor sheath black; wing membrane slightly infuscated; wing veins, parastigma, and margins of pterostigma, brown; rest of pterostigma brownish-yellow.

Holotype in Rijksmuseum van Natuurlijke Historie, Leiden: "Austria, Burgenl., Winden am See, 6.VI.1980, Th. Peter".

Note. — *Macrocentrus bicoloripes* is one of the most distinctive species among the Palaearctic Macrocentrinae, both in colour (legs!) and sculpture. It is closely related to *M. hungaricus* Marshall, 1893 but can be separated from that species as follows:

1. Precoxal sulcus coarsely and densely rugose-punctate (fig. 16); metasoma behind 3rd tergite, trochanters, apex of hind femur, and hind tibia, black; length of maxillary palp about 1.5 times height of head (fig. 16); pronope present ..... *bicoloripes* spec. nov.
   Biology unknown.
— Precoxal sulcus punctulate or finely punctate; metasoma behind 3rd tergite, trochanters, hind femur and tibia, yellowish; length of maxillary palp about equal to height of head; pronope absent..... *hungaricus* Marshall, 1893
   Parasite of Tineidae. Syn.: *Macrocentrus tsunekii* Watanabe, 1940 (syn. nov.); *M. macrocephalus* Telenga, 1950; *M. mongolicus* Papp, 1967 (syn. nov.) (types examined).

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REFERENCES

Achterberg, C. van, 1979. A revision of the subfamily Zelinae auct. (Hym., Braconidae). — *Tijdschr. Ent.* 122: 241-479, figs. 1-900.

Snellen van Vollenhoven, S. C., [1875-1880]. *Pinacographia. Illustrations of more than 1000 species of North-West-European Ichneumonidae sensu Linneano*: I-XI + 1-68, pls 1-45, Nijhoff, 's-Gravenhage.

Postbus 9517, 2300 RA Leiden.

KUCHLEIN, J. H., F. LEFFEF & R. H. KLEINPASTE, 1980. TABELLEN EN VERSPREIDINGSATLAS VAN DE NEDERLANDSE MICROLEPIDOPTERA, 1. Pyralidae (eerste gedeelte): 1-77, 149 fign, 99 verspreidingskaarten. Pudoc, Postbus 4, Wageningen. Prijs *f* 5,—.

Dit is het eerste stuk van wat moet uitgroeien tot een modern overzicht van de uit Nederland bekende soorten, die vroeger samengevat werden als „microlepidoptera". In dit gedeelte worden drie subfamilies van de Pyralidae behandeld, namelijk de Galleriinae, de Crambinae en de Phycitinae. Er zijn tabellen voor het bepalen van de subfamilies, waarna die voor het determineren van de soorten volgen, dit alles toegelicht door 149 zeer fraaie tekeningen. Daarna worden de 99 soorten besproken, die uit Nederland van deze subfamilies bekend zijn. Van elke soort wordt de levenswijze en de vliegtijd aangegeven benevens de verspreiding in ons land, toegelicht met een verspreidingskaart volgens het EIS-systeem. Voor een globaal overzicht zijn deze kaarten voldoende, maar de werkelijke vindplaatsen zijn er zelden uit te destilleren.

Van de Galleriinae verscheen van de eerste auteur overigens reeds in 1978 een uitvoeriger behandeling (in het Engels) in Zoologische Bijdragen no. 24 (Bijdragen tot de faunistiek van Nederland VI), uitgegeven door het Rijksmuseum van Natuurlijke Historie te Leiden.

Het zal ongetwijfeld heel wat jaren duren vòòr de serie compleet is, maar elke volgende aflevering is dan weer een stap verder in de goede richting. Ik wens de auteurs veel succes. — B. J. Lempke.

AN IDENTIFICATION GUIDE TO THE BRITISH PUGS, LEPIDOPTERA GEOMETRIDAE, 1981. pp. 1-42, pl. I-XVI, index. British entomological and natural History Society, c/o The Alpine Club, 74 South Audley Street, London, Wl. Prijs (gebrocheerd) £ 6,25.

Tot de „pugs" behoren alle soorten van de genera *Eupithecia, Chloroclysta, Gymnoscelis* en *Anticollix*. Wij praten onder elkaar over Eupi's en dan weten we, dat we het over de moeilijkste groep van de macrolepidoptera hebben, die vooral beginners heel wat hoofdbrekens bezorgt. Trouwens als de vlinders wat afgevlogen zijn, heeft ook een ervaren lepidopteroloog er niet zelden moeite mee en moet dan een genitaalpreparaat maken om zekerheid te hebben. Maar al die moeilijkheden maken wel, dat ze een bijzonder intrigerende groep vormen. Daar komt bij, dat de rupsen als regel heel fraai getekende dieren zijn.

Deze Engelse publikatie (de vijfde over de groep na Petersen (1909), Dietze (1913), Juul (1948) en Weigt (1976-1979) is samengesteld door een aantal niet met name genoemde leden van de bovengenoemde vereniging. Na een determinatietabel van de imagines volgt de bespreking van de soorten: beschrijving van vlinder en rups met vermelding van de biologie en verspreiding op de Britse eilanden. De platen geven voortreffelijke kleurenfoto's van de vlinders en afbeeldingen van de genitaliën van ♂ en ♀. Alleen al om de foto's is het boekje ook voor iemand die moeite heeft met de taal het aanschaffen meer dan waard. Wie deze foto's naast die van Juul legt, ziet de enorme vooruitgang in de techniek van het maken en reproduceren ervan. — B. J. Lempke.